

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P332982-840

Luminaire Tested: **SA4XXRDIP-C1020D1205U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332982-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C1020D1205U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1020 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9070.5 lumens
Efficiency: N/A
Efficacy: 138.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

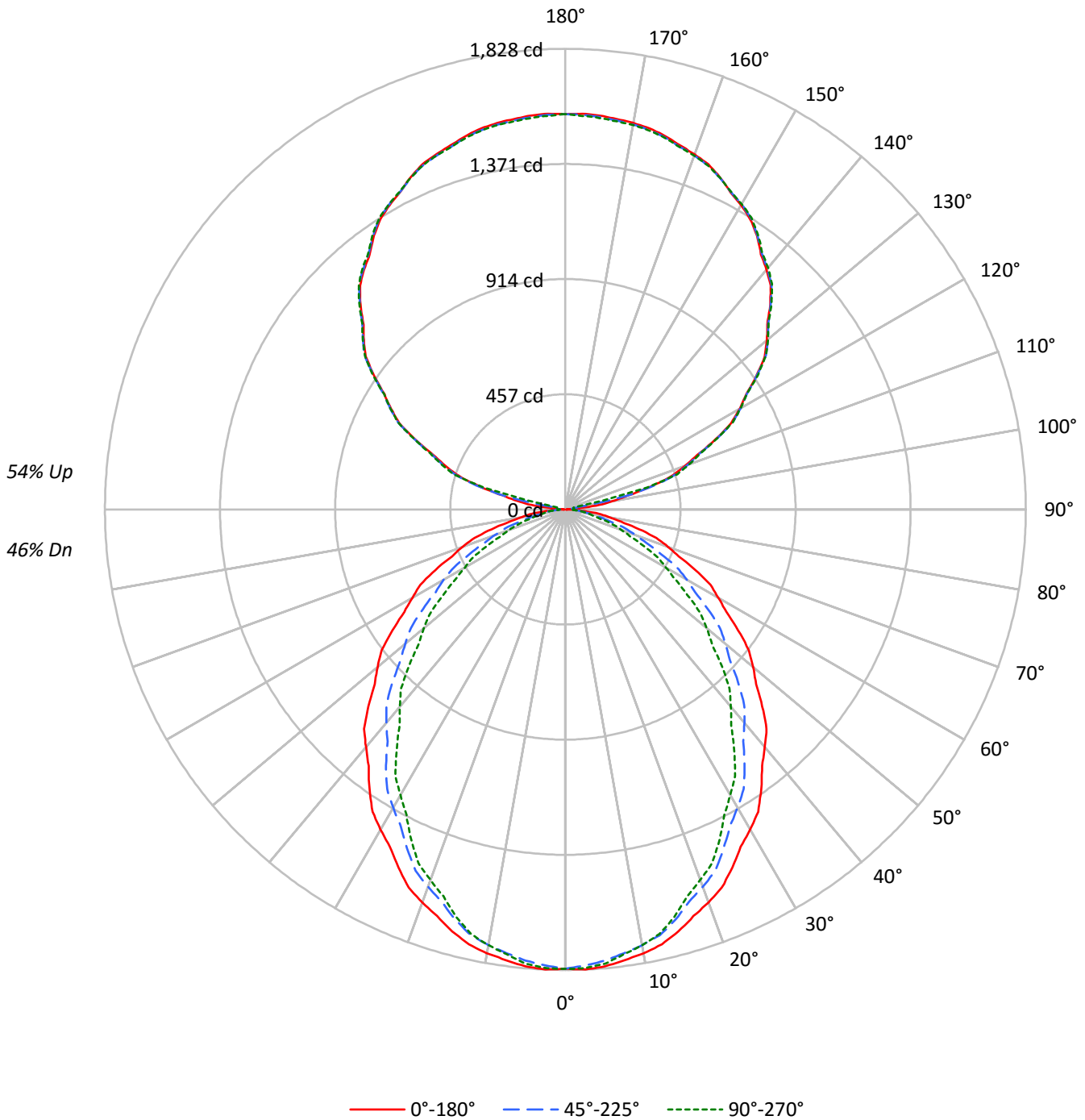
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	106	106	106	106	98	98	98	98	81	81	81	67	67	67	53	53	53	46
1	97	93	89	86	89	86	82	79	72	69	67	59	57	56	47	46	45	40
2	89	82	76	71	81	75	70	66	63	59	56	52	49	47	42	40	38	34
3	81	72	65	59	74	66	60	55	56	51	47	46	43	40	37	35	33	29
4	74	64	56	50	68	59	52	47	50	45	41	41	38	34	33	31	29	25
5	68	57	49	43	62	53	46	40	45	39	35	37	33	30	30	27	25	22
6	63	51	43	37	58	47	40	35	40	35	31	34	30	26	27	24	22	19
7	58	46	38	33	53	43	36	31	37	31	27	31	26	23	25	22	20	17
8	54	42	34	29	50	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	21	18	16	14
10	47	35	28	23	43	33	26	22	28	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14721	14721	14721
5°	14755	14574	14665
10°	14662	14399	14399
15°	14493	14097	13992
20°	14262	13698	13447
25°	13967	13233	12897
30°	13679	12743	12209
35°	13361	12232	11517
40°	12978	11653	10771
45°	12625	11079	10011
50°	12223	10417	9207
55°	11792	9728	8332
60°	11317	8972	7440
65°	10883	8029	6562
70°	10249	6987	5570
75°	9451	5792	4529
80°	8243	4412	4156
85°	6984	4011	3751



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.3	1.9
10°-20°	477.7	5.3
20°-30°	689.8	7.6
30°-40°	781.8	8.6
40°-50°	755.0	8.3
50°-60°	627.8	6.9
60°-70°	433.5	4.8
70°-80°	219.7	2.4
80°-90°	60.9	0.7
90°-100°	53.7	0.6
100°-110°	342.1	3.8
110°-120°	654.5	7.2
120°-130°	830.8	9.2
130°-140°	888.9	9.8
140°-150°	831.2	9.2
150°-160°	670.3	7.4
160°-170°	432.4	4.8
170°-180°	149.0	1.6
0°-30°	1338.7	14.8
0°-40°	2120.6	23.4
0°-60°	3503.4	38.6
0°-90°	4217.6	46.5
90°-120°	1050.3	11.6
90°-150°	3601.3	39.7
90°-180°	4853.0	53.5
0°-180°	9070.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1824	1824	1824	1824	1824	
5°	1821	1814	1798	1811	1810	173
15°	1734	1720	1687	1683	1674	488
25°	1568	1541	1486	1462	1448	722
35°	1356	1310	1241	1195	1169	847
45°	1106	1052	970	904	877	852
55°	838	780	691	621	592	749
65°	570	508	420	363	344	562
75°	303	251	186	155	145	320
85°	75	49	43	41	40	85
90°	4	16	26	33	35	7
95°	64	27	26	33	34	83
105°	353	360	366	374	334	370
115°	659	663	662	664	664	649
125°	927	931	929	933	934	827
135°	1150	1149	1154	1156	1158	886
145°	1326	1329	1330	1331	1333	828
155°	1454	1455	1452	1456	1453	670
165°	1534	1528	1528	1536	1527	433
175°	1569	1562	1563	1572	1559	149
180°	1569	1569	1569	1569	1569	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5
2.5°	1828.0	1826.9	1825.9	1825.0	1824.0	1822.1	1819.4	1816.6	1813.9	1811.2	1813.9
5°	1820.7	1819.5	1818.3	1816.9	1815.7	1813.2	1809.6	1805.8	1802.1	1798.4	1801.5
7.5°	1804.2	1802.9	1801.6	1800.3	1799.0	1795.9	1791.1	1786.2	1781.4	1776.6	1778.6
10°	1788.6	1787.1	1785.4	1783.9	1782.4	1778.8	1773.2	1767.7	1762.0	1756.5	1757.7
12.5°	1768.5	1766.7	1764.8	1763.1	1761.3	1757.1	1750.5	1743.9	1737.4	1730.8	1731.5
15°	1734.1	1731.3	1728.6	1725.8	1722.9	1717.7	1709.9	1702.1	1694.5	1686.7	1686.1
17.5°	1692.5	1688.5	1684.5	1680.4	1676.4	1669.7	1660.4	1651.1	1641.8	1632.4	1630.7
20°	1660.1	1656.1	1652.0	1648.0	1644.0	1636.7	1626.2	1615.6	1605.1	1594.5	1592.1
22.5°	1624.4	1619.8	1615.3	1610.8	1606.3	1598.3	1587.1	1575.8	1564.5	1553.2	1549.4
25°	1568.0	1562.4	1556.8	1551.3	1545.6	1536.5	1523.8	1511.1	1498.3	1485.6	1480.4
27.5°	1508.7	1501.8	1494.8	1487.7	1480.8	1470.5	1456.8	1443.3	1429.7	1416.0	1409.6
30°	1467.4	1459.7	1452.0	1444.2	1436.4	1425.2	1410.7	1396.0	1381.5	1367.0	1359.2
32.5°	1423.9	1415.1	1406.3	1397.7	1388.9	1377.0	1361.9	1346.9	1331.7	1316.7	1307.7
35°	1355.7	1345.8	1335.8	1326.0	1316.1	1303.3	1287.8	1272.3	1256.8	1241.2	1230.7
37.5°	1282.8	1272.6	1262.4	1252.1	1241.9	1228.2	1211.0	1193.9	1176.6	1159.4	1147.6
40°	1231.5	1221.2	1211.0	1200.7	1190.5	1176.6	1158.9	1141.1	1123.5	1105.8	1092.8
42.5°	1182.3	1171.6	1160.8	1150.1	1139.4	1124.8	1106.4	1087.9	1069.5	1051.1	1037.8
45°	1105.8	1094.4	1082.9	1071.4	1059.9	1044.8	1026.2	1007.6	989.0	970.4	955.2
47.5°	1026.8	1014.9	1003.1	991.3	979.4	963.8	944.4	925.0	905.6	886.4	870.6
50°	973.2	961.1	949.0	936.9	924.7	908.8	889.0	869.1	849.2	829.4	813.9
52.5°	918.5	906.6	894.7	882.9	871.0	855.0	834.6	814.3	793.9	773.6	757.8
55°	837.8	825.4	812.9	800.5	788.1	771.8	751.6	731.4	711.3	691.2	675.0
57.5°	757.9	745.0	732.1	719.1	706.3	689.8	670.0	650.2	630.3	610.5	594.1
60°	700.9	688.5	676.1	663.7	651.3	635.1	615.3	595.4	575.5	555.7	539.6
62.5°	649.5	636.6	623.7	610.8	597.9	581.3	560.9	540.6	520.2	499.9	484.9
65°	569.7	556.3	543.0	529.7	516.3	499.7	479.9	460.0	440.1	420.3	407.0
67.5°	486.8	473.9	461.2	448.4	435.6	420.0	401.5	383.1	364.7	346.3	334.8
70°	434.2	421.2	408.2	395.2	382.1	366.8	349.1	331.3	313.7	296.0	285.8
72.5°	378.4	366.6	354.8	343.1	331.2	317.0	300.3	283.6	266.9	250.2	241.5
75°	303.0	291.5	280.0	268.5	257.1	244.0	229.4	214.9	200.3	185.7	178.5
77.5°	226.5	216.7	207.0	197.2	187.5	176.7	164.9	153.2	141.4	129.6	125.4
80°	177.3	168.3	159.4	150.4	141.4	132.2	122.9	113.6	104.2	94.9	94.0
82.5°	134.9	126.6	118.4	110.1	101.9	95.0	89.8	84.4	79.1	73.7	73.0
85°	75.4	69.2	63.0	56.8	50.6	47.0	46.0	45.1	44.2	43.3	42.6
87.5°	26.4	24.9	23.5	22.1	20.7	20.1	20.3	20.5	20.6	20.8	20.9
90°	3.5	6.4	9.3	12.1	14.9	17.5	19.6	21.6	23.7	25.9	27.4
92.5°	14.7	14.9	15.1	15.2	15.5	16.6	18.6	20.7	22.8	24.8	26.5
95°	64.5	55.6	46.8	38.0	29.1	24.7	25.0	25.2	25.5	25.9	27.4
97.5°	137.0	142.6	148.1	153.6	159.2	147.3	118.3	89.2	60.1	31.0	31.1
100°	192.5	197.1	201.9	206.5	211.3	195.6	159.6	123.6	87.7	51.6	47.2
102.5°	254.4	257.8	261.3	264.7	268.1	267.5	262.9	258.1	253.5	248.7	201.0
105°	353.1	354.8	356.3	357.9	359.4	360.9	362.2	363.5	364.8	366.1	368.5
107.5°	444.9	445.8	446.6	447.3	448.1	449.4	451.1	452.9	454.6	456.5	457.6
110°	507.0	507.7	508.5	509.3	510.1	511.2	512.8	514.3	515.9	517.5	518.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	567.0	568.5	569.8	571.2	572.6	573.7	574.4	575.1	575.9	576.6	576.5
115°	659.4	660.2	661.1	661.8	662.6	662.9	662.6	662.4	662.1	661.8	662.4
117.5°	742.8	743.8	744.9	745.9	746.9	747.7	748.3	748.9	749.5	750.0	749.9
120°	799.1	800.1	801.2	802.2	803.2	803.7	803.4	803.1	802.8	802.6	803.1
122.5°	851.6	852.3	852.9	853.5	854.1	854.6	855.1	855.4	855.8	856.2	856.5
125°	927.0	928.1	929.1	930.1	931.2	931.4	930.9	930.4	929.9	929.4	930.1
127.5°	998.4	998.6	998.9	999.2	999.4	1000.1	1001.3	1002.5	1003.7	1004.9	1004.7
130°	1044.3	1044.6	1044.9	1045.1	1045.4	1045.9	1046.7	1047.4	1048.2	1049.0	1049.2
132.5°	1086.6	1087.0	1087.5	1088.0	1088.4	1089.2	1090.1	1091.2	1092.2	1093.2	1093.4
135°	1149.9	1149.7	1149.4	1149.1	1148.9	1149.3	1150.3	1151.3	1152.5	1153.5	1154.0
137.5°	1206.1	1206.2	1206.3	1206.4	1206.5	1207.1	1208.2	1209.4	1210.5	1211.6	1212.2
140°	1242.6	1243.1	1243.6	1244.3	1244.8	1245.3	1245.8	1246.3	1246.8	1247.4	1248.1
142.5°	1275.5	1276.5	1277.4	1278.3	1279.3	1279.9	1280.2	1280.5	1280.8	1281.1	1281.7
145°	1326.0	1326.8	1327.6	1328.3	1329.1	1329.5	1329.5	1329.5	1329.5	1329.5	1329.8
147.5°	1366.0	1367.6	1369.0	1370.5	1371.9	1372.5	1372.3	1372.0	1371.7	1371.5	1371.7
150°	1395.2	1396.2	1397.2	1398.4	1399.4	1399.8	1399.5	1399.3	1399.0	1398.7	1398.7
152.5°	1419.6	1420.5	1421.3	1422.1	1422.9	1423.1	1422.7	1422.2	1421.7	1421.3	1421.7
155°	1453.9	1454.1	1454.4	1454.6	1454.9	1454.6	1453.9	1453.1	1452.3	1451.5	1452.6
157.5°	1482.7	1482.6	1482.4	1482.3	1482.1	1481.6	1480.7	1479.9	1478.9	1478.0	1479.4
160°	1499.6	1498.8	1498.0	1497.3	1496.5	1496.0	1495.7	1495.4	1495.2	1494.9	1496.5
162.5°	1514.6	1513.7	1512.7	1511.7	1510.7	1510.1	1509.7	1509.5	1509.2	1509.0	1510.6
165°	1533.7	1532.4	1531.1	1529.7	1528.4	1527.8	1527.8	1527.8	1527.8	1527.8	1529.8
167.5°	1548.6	1547.3	1546.0	1544.6	1543.3	1542.5	1542.4	1542.2	1542.1	1541.9	1544.2
170°	1557.1	1555.6	1554.0	1552.5	1550.8	1550.2	1550.4	1550.7	1551.0	1551.3	1553.4
172.5°	1562.8	1561.2	1559.6	1558.0	1556.5	1555.8	1556.1	1556.4	1556.6	1556.9	1558.9
175°	1568.8	1567.3	1565.7	1564.2	1562.6	1562.0	1562.2	1562.5	1562.8	1563.0	1565.3
177.5°	1571.7	1570.2	1568.7	1567.3	1565.8	1565.3	1565.7	1566.1	1566.6	1567.0	1568.6
180°	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5	1823.5
2.5°	1816.6	1819.4	1822.1	1823.4	1823.1	1822.9	1822.6	1822.4
5°	1804.5	1807.7	1810.8	1812.0	1811.4	1810.8	1810.2	1809.6
7.5°	1780.6	1782.5	1784.5	1785.0	1784.0	1783.0	1782.0	1781.0
10°	1759.0	1760.2	1761.4	1761.4	1760.2	1759.0	1757.7	1756.5
12.5°	1732.2	1733.0	1733.7	1733.2	1731.5	1729.8	1728.1	1726.4
15°	1685.5	1684.8	1684.2	1682.7	1680.6	1678.4	1676.3	1674.1
17.5°	1629.0	1627.3	1625.6	1623.1	1619.7	1616.5	1613.2	1609.8
20°	1589.5	1587.1	1584.6	1581.3	1577.3	1573.3	1569.2	1565.2
22.5°	1545.7	1542.0	1538.3	1534.8	1531.5	1528.2	1524.9	1521.7
25°	1475.0	1469.8	1464.5	1460.3	1457.2	1454.1	1451.0	1447.9
27.5°	1403.0	1396.5	1390.0	1384.5	1380.1	1375.5	1371.1	1366.7
30°	1351.4	1343.6	1335.8	1329.5	1324.5	1319.6	1314.6	1309.7
32.5°	1298.7	1289.7	1280.7	1273.8	1269.1	1264.4	1259.7	1255.0
35°	1220.1	1209.6	1199.0	1191.0	1185.4	1179.8	1174.3	1168.6
37.5°	1135.9	1124.1	1112.3	1103.6	1098.0	1092.4	1086.8	1081.3
40°	1079.7	1066.7	1053.7	1044.4	1038.8	1033.2	1027.6	1022.1
42.5°	1024.5	1011.3	997.9	988.5	982.6	976.7	970.9	965.1
45°	940.0	924.7	909.6	899.2	893.6	888.0	882.4	876.9
47.5°	854.9	839.1	823.2	812.3	806.2	800.0	793.9	787.8
50°	798.3	782.8	767.3	756.6	750.7	744.8	738.9	733.1
52.5°	741.9	726.2	710.4	699.5	693.4	687.2	681.1	675.0
55°	658.8	642.8	626.6	615.6	609.7	603.8	597.9	592.0
57.5°	577.6	561.3	544.9	534.5	530.0	525.5	521.1	516.6
60°	523.4	507.3	491.2	480.6	475.6	470.7	465.7	460.8
62.5°	470.1	455.1	440.3	430.8	426.9	422.9	418.9	415.0
65°	393.5	380.2	366.9	358.4	354.7	350.9	347.2	343.5
67.5°	323.3	311.8	300.3	292.6	288.4	284.4	280.2	276.2
70°	275.5	265.3	255.1	248.3	245.3	242.2	239.0	236.0
72.5°	232.7	224.0	215.2	209.4	206.5	203.7	200.9	198.0
75°	171.5	164.3	157.1	152.7	150.8	149.0	147.0	145.2
77.5°	121.3	117.1	112.9	110.6	110.0	109.5	108.9	108.4
80°	93.1	92.2	91.2	90.6	90.3	90.0	89.7	89.4
82.5°	72.3	71.7	71.0	70.5	70.2	69.9	69.6	69.3
85°	42.0	41.4	40.8	40.5	40.5	40.5	40.5	40.5
87.5°	20.9	21.0	21.1	21.3	21.6	22.0	22.3	22.7
90°	29.0	30.5	32.1	33.1	33.6	34.1	34.6	35.2
92.5°	28.0	29.6	31.1	32.0	32.1	32.2	32.3	32.4
95°	29.0	30.5	32.1	33.0	33.2	33.5	33.7	34.0
97.5°	31.3	31.4	31.6	31.8	32.1	32.3	32.6	32.8
100°	42.7	38.4	33.9	31.8	32.1	32.3	32.6	32.8
102.5°	153.1	105.3	57.5	33.6	33.6	33.7	33.7	33.8
105°	370.8	373.1	375.5	371.9	362.5	353.1	343.9	334.5
107.5°	458.8	459.9	461.0	462.1	463.1	464.1	465.0	466.1
110°	518.6	519.1	519.6	520.2	521.0	521.8	522.6	523.3



TEST NUMBER: P332982-840

CATALOG NUMBER: SA4XXRDIP-C1020D1205U840-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	576.4	576.3	576.2	576.6	577.6	578.7	579.7	580.6
115°	662.9	663.4	663.9	664.2	664.2	664.2	664.2	664.2
117.5°	749.8	749.7	749.6	749.5	749.4	749.3	749.2	749.1
120°	803.7	804.2	804.7	804.7	804.2	803.7	803.1	802.6
122.5°	856.8	857.1	857.4	857.3	856.8	856.3	855.7	855.2
125°	930.9	931.7	932.5	933.0	933.2	933.5	933.8	934.0
127.5°	1004.6	1004.4	1004.3	1004.1	1003.9	1003.7	1003.5	1003.3
130°	1049.6	1049.9	1050.1	1050.2	1050.2	1050.2	1050.2	1050.2
132.5°	1093.7	1094.0	1094.2	1094.2	1094.0	1093.8	1093.6	1093.4
135°	1154.5	1155.0	1155.6	1156.1	1156.6	1157.1	1157.6	1158.1
137.5°	1212.8	1213.4	1214.0	1214.2	1214.1	1213.9	1213.7	1213.6
140°	1248.9	1249.7	1250.5	1251.0	1251.2	1251.5	1251.7	1252.0
142.5°	1282.3	1282.8	1283.4	1283.7	1283.8	1283.8	1283.9	1283.9
145°	1330.0	1330.3	1330.5	1330.9	1331.4	1331.9	1332.5	1333.0
147.5°	1371.9	1372.1	1372.3	1372.5	1372.8	1373.1	1373.3	1373.6
150°	1398.7	1398.7	1398.7	1398.9	1399.1	1399.4	1399.7	1399.9
152.5°	1422.1	1422.5	1422.9	1423.0	1422.9	1422.7	1422.6	1422.4
155°	1453.6	1454.6	1455.7	1455.8	1455.0	1454.2	1453.5	1452.7
157.5°	1480.8	1482.1	1483.5	1483.5	1482.1	1480.8	1479.4	1478.0
160°	1498.0	1499.6	1501.2	1501.2	1499.6	1498.0	1496.5	1494.9
162.5°	1512.2	1513.7	1515.3	1515.2	1513.4	1511.7	1509.8	1508.0
165°	1532.0	1534.1	1536.1	1536.0	1533.7	1531.3	1528.9	1526.6
167.5°	1546.5	1548.7	1551.1	1550.8	1548.3	1545.7	1543.1	1540.4
170°	1555.4	1557.5	1559.6	1559.3	1556.7	1554.1	1551.6	1548.9
172.5°	1561.0	1563.2	1565.2	1564.9	1562.1	1559.2	1556.4	1553.6
175°	1567.7	1570.0	1572.4	1572.0	1568.8	1565.7	1562.6	1559.4
177.5°	1570.3	1572.0	1573.7	1573.3	1570.7	1568.2	1565.7	1563.3
180°	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8	1568.8

(END OF REPORT)